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MIDWEST INFORMATION OFFICE: Chicago, Ill.

Technical information: (312) 353-1880 BLSInfoChicago@bls.gov www.bls.gov/regions/midwest

Media contact: (312) 353-1138

## Occupational Employment and Wages in Youngstown-Warren-Boardman — May 2016

Workers in the Youngstown-Warren-Boardman Metropolitan Statistical Area had an average (mean) hourly wage of \$19.44 in May 2016, about 19 percent below the nationwide average of \$23.86, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Charlene Peiffer noted that, after testing for statistical significance, wages in the local area were lower than their respective national average in 18 of the 22 major occupational groups, including legal, computer and mathematical, and management. Three occupational groups had wages that were not significantly different from their respective national averages, including production; construction and extraction; and education, training, and library.

When compared to the nationwide distribution, local employment was more highly concentrated in 8 of the 22 occupational groups, including production, sales and related, and food preparation and serving related. Conversely, 11 groups had employment shares significantly below their national representation, including business and financial operations, computer and mathematical, and management. (See [table A](#) and [box note](#) at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Youngstown-Warren-Boardman Metropolitan Statistical Area, and measures of statistical significance, May 2016**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Youngstown	United States	Youngstown	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$23.86	\$19.44*	-19
Management .....	5.1	3.6*	56.74	44.36*	-22
Business and financial operations .....	5.2	2.9*	36.09	28.42*	-21
Computer and mathematical .....	3.0	0.8*	42.25	29.82*	-29
Architecture and engineering .....	1.8	1.2*	40.53	34.76*	-14
Life, physical, and social science .....	0.8	0.2*	35.06	31.38*	-10
Community and social service .....	1.4	1.9*	22.69	19.00*	-16
Legal .....	0.8	0.4*	50.95	32.28*	-37
Education, training, and library .....	6.2	6.0	26.21	30.70	17
Arts, design, entertainment, sports, and media .....	1.4	0.8*	28.07	17.14*	-39
Healthcare practitioners and technical .....	5.9	7.0*	38.06	33.76*	-11
Healthcare support .....	2.9	4.2*	14.65	12.94*	-12
Protective service .....	2.4	2.7*	22.03	19.32*	-12
Food preparation and serving related .....	9.2	11.3*	11.47	9.95*	-13
Building and grounds cleaning and maintenance ...	3.2	3.0	13.47	12.09*	-10
Personal care and service .....	3.2	2.7*	12.74	11.16*	-12
Sales and related .....	10.4	12.5*	19.50	15.40*	-21
Office and administrative support .....	15.7	14.7*	17.91	15.40*	-14

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Youngstown-Warren-Boardman Metropolitan Statistical Area, and measures of statistical significance, May 2016 - Continued**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Youngstown	United States	Youngstown	Percent difference <sup>(1)</sup>
Farming, fishing, and forestry .....	0.3	0.1*	13.37	14.95*	12
Construction and extraction.....	4.0	3.5*	23.51	22.86	-3
Installation, maintenance, and repair .....	3.9	4.1	22.45	20.47*	-9
Production .....	6.5	9.0*	17.88	17.78	-1
Transportation and material moving .....	6.9	7.6*	17.34	16.04*	-7

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Youngstown-Warren-Boardman Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

\* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Youngstown-Warren-Boardman had 19,500 jobs in production, accounting for 9.0 percent of local area employment, significantly higher than the 6.5-percent share nationally. The average hourly wage for this occupational group locally was \$17.78, compared to the national wage of \$17.88.

Some of the largest detailed occupations within the production group included first-line supervisors of production and operating workers (1,570); team assemblers (1,490); and cutting, punching, and press machine setters, operators, and tenders, metal and plastic (1,090). Among the higher paying jobs were power distributors and dispatchers with mean hourly wages of \$32.25 and first-line supervisors of production and operating workers, \$28.97. At the lower end of the wage scale were laundry and dry-cleaning workers (\$9.88) and pressers, textile, garment, and related materials (\$9.98). (Detailed occupational data for production are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/2016/may/oes\\_49660.htm](http://www.bls.gov/oes/2016/may/oes_49660.htm).)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Youngstown-Warren-Boardman Metropolitan Statistical Area, above-average concentrations of employment were found in many of the occupations within the production group. For instance, metal-refining furnace operators and tenders in Youngstown were employed at 7.7 times the national rate, and rolling machine setters, operators, and tenders, metal and plastic, at 7.2 times the U.S. average. On the other hand, butchers and meat cutters in Youngstown had a location quotient of 1.0, indicating that this particular occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Ohio Department of Job & Family Services and Pennsylvania Department of Labor and Industry.

## Note

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

## Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, and selected 5- and 6-digit industry levels, and national estimates by ownership across all industries and for schools and hospitals. OES data are available at [www.bls.gov/oes/tables.htm](http://www.bls.gov/oes/tables.htm).

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2016 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2016, November 2015, May 2015, November 2014, May 2014, and November 2013. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 73 percent based on establishments and 69 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the Youngstown-Warren-Boardman Metropolitan Statistical Area included 2,895 establishments with a response rate of 76 percent. For more information about OES concepts and methodology, go to [www.bls.gov/news.release/ocwage.tn.htm](http://www.bls.gov/news.release/ocwage.tn.htm).

The May 2016 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2012 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at [www.bls.gov/soc](http://www.bls.gov/soc) and information about the 2012 NAICS is available at [www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm).

## Metropolitan area definitions

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Youngstown-Warren-Boardman, Ohio Metropolitan Statistical Area** includes Mahoning and Trumbull Counties of Ohio, and Mercer County of Pennsylvania.

## Additional information

OES data are available on our regional web page at [www.bls.gov/regions/midwest](http://www.bls.gov/regions/midwest). Answers to frequently asked questions about the OES data are available at [www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm). Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at [www.bls.gov/oes/current/methods\\_statement.pdf](http://www.bls.gov/oes/current/methods_statement.pdf).

Information in this release will be made available to sensory impaired individuals upon request . Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Youngstown-Warren-Boardman Metropolitan Statistical Area, May 2016**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Production occupations .....	19,500	1.4	\$17.78	\$36,980
First-line supervisors of production and operating workers .....	1,570	1.7	28.97	60,260
Electrical and electronic equipment assemblers .....	460	1.4	15.12	31,450
Electromechanical equipment assemblers .....	150	2.2	17.45	36,300
Engine and other machine assemblers .....	90	1.5	19.77	41,120
Structural metal fabricators and fitters .....	180	1.5	22.26	46,310
Team assemblers .....	1,490	0.9	15.19	31,600
Assemblers and fabricators, all other .....	1,050	3.0	13.65	28,390
Bakers .....	510	1.8	11.48	23,870
Butchers and meat cutters .....	200	1.0	15.12	31,450
Food batchmakers .....	(5)	(5)	15.24	31,690
Computer-controlled machine tool operators, metal and plastic .....	480	2.1	17.31	36,000
Computer numerically controlled machine tool programmers, metal and plastic .....	50	1.3	22.21	46,190
Extruding and drawing machine setters, operators, and tenders, metal and plastic .....	520	4.7	17.48	36,360
Forging machine setters, operators, and tenders, metal and plastic .....	(5)	(5)	18.12	37,690
Rolling machine setters, operators, and tenders, metal and plastic .....	320	7.2	20.64	42,930
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	1,090	3.6	17.57	36,530
Drilling and boring machine tool setters, operators, and tenders, metal and plastic .....	110	5.8	19.20	39,940
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic .....	390	3.4	16.41	34,140
Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	90	1.7	18.36	38,190
Milling and planing machine setters, operators, and tenders, metal and plastic .....	40	1.4	18.71	38,910
Machinists .....	920	1.5	20.14	41,900
Metal-refining furnace operators and tenders .....	210	7.7	20.62	42,890
Pourers and casters, metal .....	60	4.4	16.84	35,020
Foundry mold and coremakers .....	70	3.7	20.38	42,390
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	310	1.4	18.31	38,080
Multiple machine tool setters, operators, and tenders, metal and plastic .....	610	3.4	17.23	35,830
Tool and die makers .....	410	3.7	26.69	55,520
Welders, cutters, solderers, and brazers .....	960	1.6	17.76	36,940
Welding, soldering, and brazing machine setters, operators, and tenders .....	130	1.8	16.12	33,540
Heat treating equipment setters, operators, and tenders, metal and plastic .....	130	4.1	20.59	42,820
Plating and coating machine setters, operators, and tenders, metal and plastic .....	110	2.0	16.43	34,180
Metal workers and plastic workers, all other .....	70	1.9	17.74	36,900
Prepress technicians and workers .....	(5)	(5)	17.93	37,300
Printing press operators .....	250	0.9	17.67	36,760
Laundry and dry-cleaning workers .....	480	1.5	9.88	20,550
Pressers, textile, garment, and related materials .....	70	1.0	9.98	20,760
Sewing machine operators .....	110	0.5	12.39	25,770
Upholsterers .....	(5)	(5)	15.05	31,310
Cabinetmakers and bench carpenters .....	170	1.1	19.16	39,860
Furniture finishers .....	40	1.6	16.12	33,520
Sawing machine setters, operators, and tenders, wood ..	100	1.3	12.50	26,000

Note: See footnotes at end of table.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Youngstown-Warren-Boardman Metropolitan Statistical Area, May 2016 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Woodworking machine setters, operators, and tenders, except sawing.....	140	1.2	12.88	26,780
Power distributors and dispatchers .....	40	2.4	32.25	67,080
Stationary engineers and boiler operators .....	60	1.1	23.15	48,140
Water and wastewater treatment plant and system operators .....	340	1.9	22.93	47,700
Crushing, grinding, and polishing machine setters, operators, and tenders .....	40	1.0	15.59	32,430
Grinding and polishing workers, hand .....	140	3.5	14.23	29,600
Mixing and blending machine setters, operators, and tenders .....	100	0.5	16.17	33,640
Cutting and slicing machine setters, operators, and tenders .....	50	0.5	13.22	27,490
Extruding, forming, pressing, and compacting machine setters, operators, and tenders .....	180	1.6	15.72	32,700
Furnace, kiln, oven, drier, and kettle operators and tenders .....	50	1.5	17.08	35,530
Inspectors, testers, sorters, samplers, and weighers.....	1,090	1.4	19.42	40,400
Jewelers and precious stone and metal workers .....	30	0.8	19.19	39,920
Medical appliance technicians.....	30	1.4	16.51	34,330
Ophthalmic laboratory technicians .....	(5)	(5)	12.62	26,250
Packaging and filling machine operators and tenders ....	440	0.7	13.85	28,810
Coating, painting, and spraying machine setters, operators, and tenders .....	190	1.4	17.68	36,770
Painters, transportation equipment .....	70	0.8	19.61	40,780
Molders, shapers, and casters, except metal and plastic .....	70	1.1	14.50	30,170
Paper goods machine setters, operators, and tenders ...	60	0.5	11.23	23,360
Helpers--production workers .....	710	1.1	13.53	28,140
Production workers, all other.....	480	1.2	13.34	27,740

**Footnotes:**

- (1) For a complete listing of all detailed occupations in the Youngstown-Warren-Boardman, OH-PA, see [www.bls.gov/oes/current/oes\\_49660.htm](http://www.bls.gov/oes/current/oes_49660.htm)
- (2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.
- (3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.
- (4) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.
- (5) Estimate not released.